

Supplementary Information

Fouling-Resistant Membranes for Separation of Oil-in-Water Emulsions

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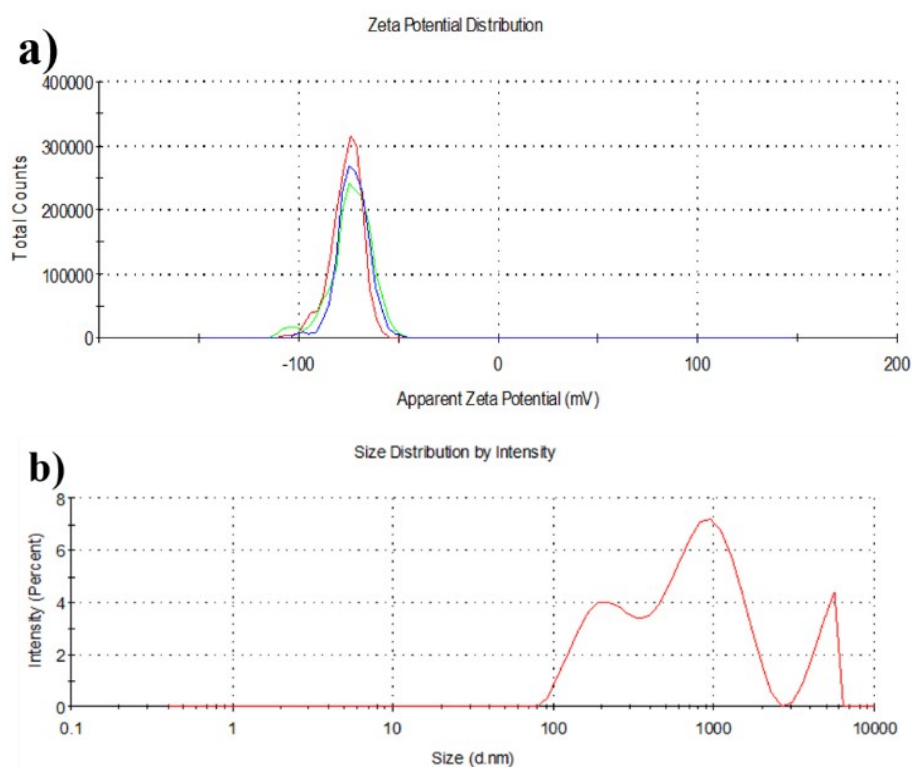


Figure S1. (a) Zeta potential distribution of SDS emulsified diesel oil-in-water emulsion; (b) Size distribution of SDS stabilized diesel oil-in-water emulsion.

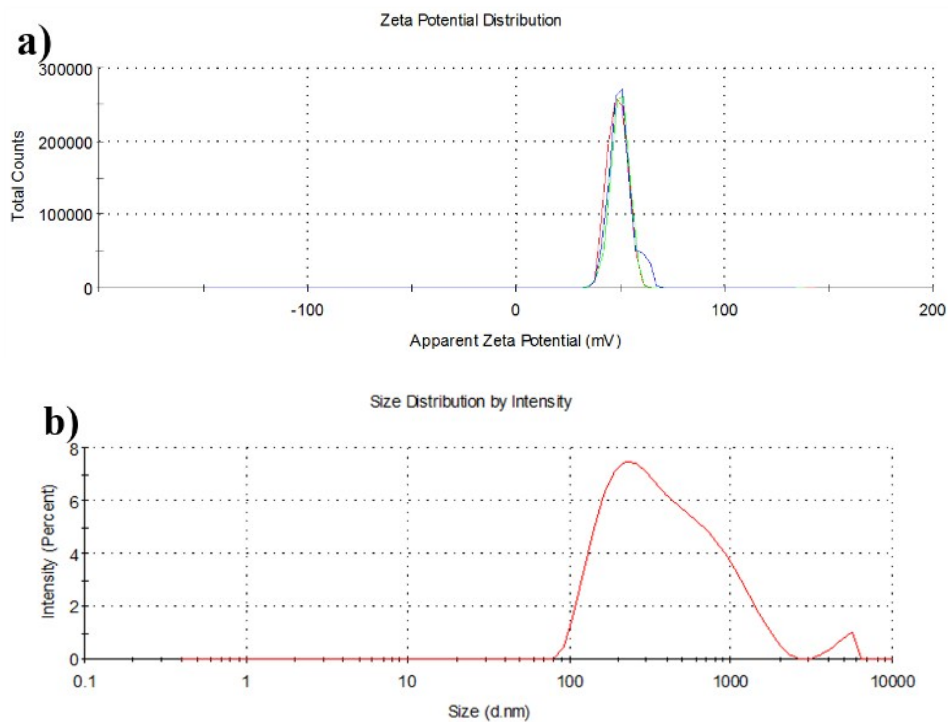


Figure S2. (a) Zeta potential distribution of CTAB emulsified diesel oil-in-water emulsion; (b) Size distribution of CTAB stabilized diesel oil-in-water emulsion.

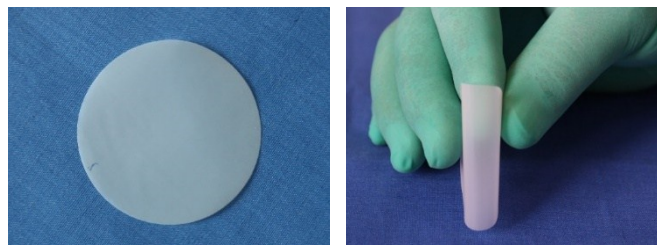


Figure S3. Photograph of bare polycarbonate porous membrane with pore size of 200 nm.

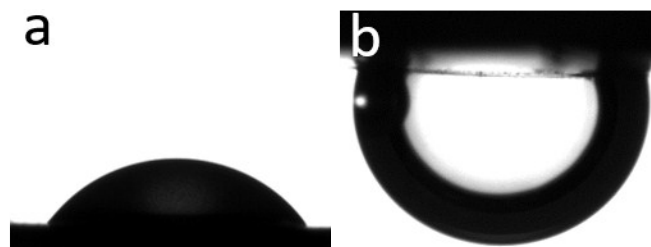


Figure S4. Optical images of (a) a water droplet in air and (b) a diesel oil droplet in water, on the polycarbonate membrane surface.



Figure S5. Photograph of the home-made filtration device. The milky-white oil-in-water emulsion is fed to the funnel, and water permeating through the membrane is collected in the flask.

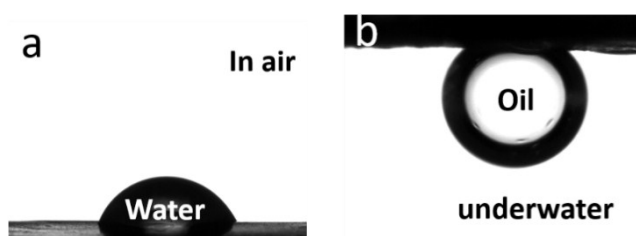


Figure S6. Wettability of PEM4-coated polycarbonate membrane surface: (a) water contact angle of in air, and (b) diesel oil contact angle underwater.

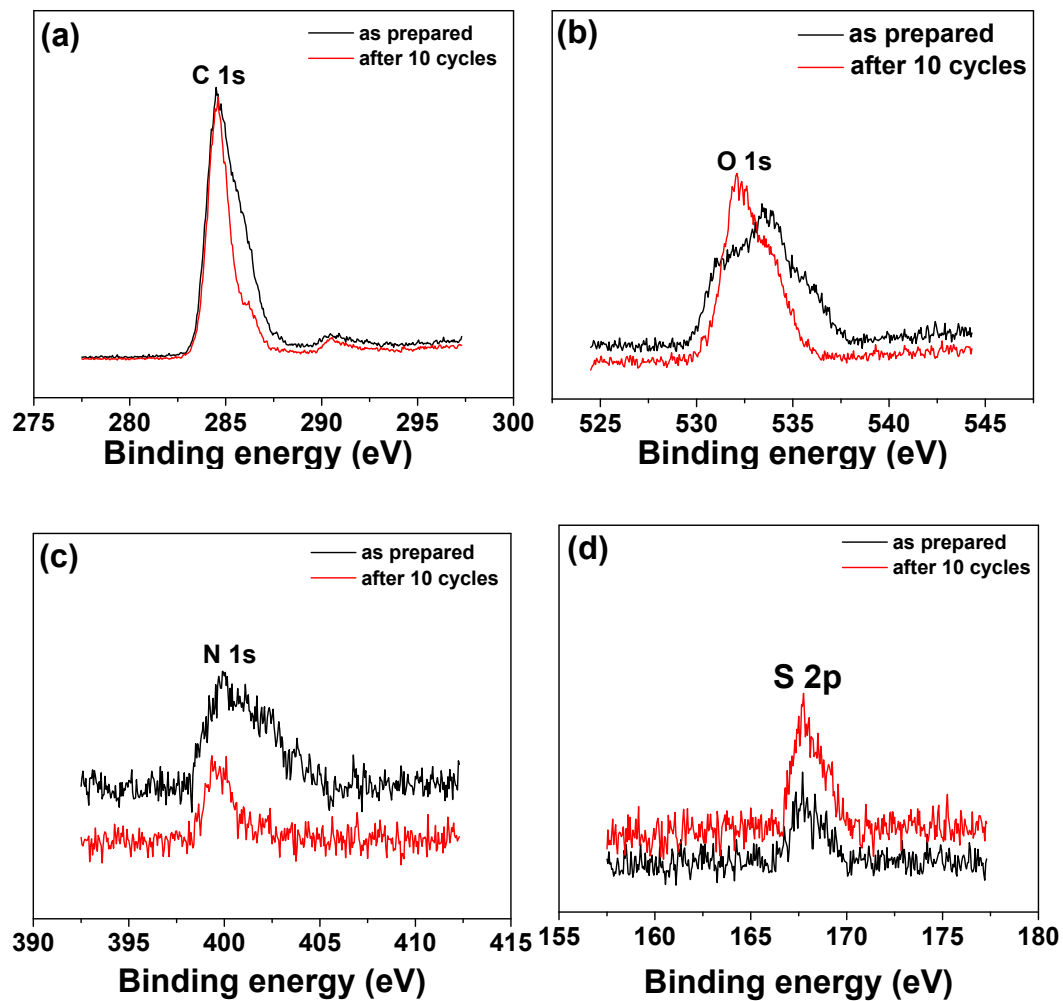


Figure S7. Different regions of XPS spectra on (PDDA/PSS)₃ surfaces, the comparison of element composition on bare PEM/PC surfaces and filtered PEM/PC surfaces (filtrating dionized water 100 min). (a) C 1s, (b) O 1s, (c) N 1s; (d) S 2p.